

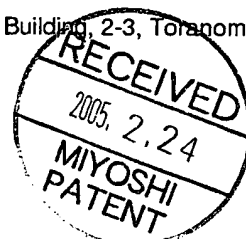
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NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 72.2)

To:

MIYOSHI, Hidekazu
9th Floor, Toranomon Daiichi Building, 2-3, Toranomon
1-chome
Minato-ku, Tokyo 105-0001
JAPON



Date of mailing (day/month/year) 17 February 2005 (17.02.2005)	
Applicant's or agent's file reference JHTK-54-PCT	IMPORTANT NOTIFICATION
International application No. PCT/JP2003/010001	International filing date (day/month/year) 06 August 2003 (06.08.2003)
Applicant HITACHI CHEMICAL CO., LTD. et al	

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

AZ, CA, CH, CN, CO, EP, GH, KG, KP, KR, MK, MZ, RO, RU, TM

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, BA, BB, BG, BR, BY, BZ, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, JP, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, SC, SD, SE, SG, SK, SL, SY, TJ, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.+41 22 740 14 35

Authorized officer

Yoshiko Kuwahara

Facsimile No.+41 22 338 90 90



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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JHTK-54-PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/010001	International filing date (day/month/year) 06 August 2003 (06.08.2003)	Priority date (day/month/year) 09 August 2002 (09.08.2002)
International Patent Classification (IPC) or national classification and IPC C09K 3/14, H01L 21/304, B24B 37/00		
Applicant HITACHI CHEMICAL CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
- a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
- ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
- ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 25 February 2004 (25.02.2004)	Date of completion of this report 30 June 2004 (30.06.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
pages _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ the claims:
pages _____, as originally filed/furnished
pages* _____, as amended (together with any statement) under Article 19
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ the drawings:
pages _____, as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement for Article 35(2) with regard to novelty, inventive step, industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-7	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-7	NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 2001-185514, A (HITACHI CHEMICAL CO., LTD.), 06 July 2001
 Document 2: JP, 2002-134444, A (HITACHI CHEMICAL CO., LTD.), 10 May 2002
 Document 3: JP, 2001-23938, A (TAMA KAGAKU KOGYO K.K.), 26 January 2001
 Document 4: JP, 2001-200244, A (TOKYO MAGNETIC PRINTING CO., LTD.), 24 July 2001
 Document 5: JP, 7-188087, A (AIR PRODUCTS AND CHEMICALS, INC.), 25 July 1995
 Document 6: JP, 2001-31954, A (TOKYO MAGNETIC PRINTING CO., LTD.), 06 February 2001

Document 1 discloses (in the claims) a CMP abrasive agent containing cerium oxide particles, an aqueous nitrogen compound such as polyvinyl pyrrolidone, an aqueous anionic organic compound with a free -COOM group, etc., and water. As an example of an aqueous anionic organic compound with a free -COOM group, etc., it gives acetylene dicarboxylic acid (equivalent to "an organic compound having an acetylene bond")(Par. No. [0025]).

Document 2 discloses a CMP abrasive material composition containing cerium oxide particles, a dispersion agent, an additive consisting of a vinylpyrrolidone copolymer, and water. As an example of the monomer component of the copolymer it gives vinylacetylene (equivalent to "an organic compound having an acetylene bond").

Document 3 discloses a CMP abrasive agent containing a colloidal silica product and an oxidizing agent. It describes adding an acetylene glycol type of nonionic surfactant in order to limit polishing damage (paragraph 0024).

Document 4 discloses using an acetylene glycol compound in a lapping oil for polishing. It describes, in order for the acetylene glycol compound's carbon-carbon triple bond to have strong polarity, orienting the compound's triple bond's π electron and the terminal hydroxide group, which is the polarity group, relative to the magnetic head's metal film and thus making it adhere selectively and forming a protective film, and preventing scratching of the metal surface.

Document 5 says a surfactant based on an acetylene glycol such as 2,4,7,9-tetramethyl-5-decene-4,7-diyl (equivalent to general formula (11)) and its ethoxylate has almost none of the negative characteristics of a conventional nonionic surfactant, etc.

Document 6 discloses a free polishing powder slurry composition that contains polishing powder, a dispersion medium, a compound containing at least one type of alcoholic hydroxide group as a selective polishing prevention agent, and a dispersion agent. As an example of the compound containing an alcoholic hydroxide group it gives 3-pentene-1-oyl, 2-heptene-1-oyl (equivalent to general formula (11)), etc.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of Box V.2:

Re Claims 1~2, 4~7

Based on the description in document 1, using acetylene dicarboxylic acid and arriving at the present application's invention could easily be conceived by a person skilled in the art.

Based on the description in document 2, utilizing vinylacetylene as the copolymer component and arriving at the present application's invention could easily be conceived by a person skilled in the art.

Also, in a composition for polishing, the ability to use an acetylene glycol surfactant as a compound to suppress surface damage (documents 3 and 4) and the ability to use a compound having acetylene as a selective abrasive (document 6) are well known, so also using a compound containing acetylene such as an acetylene glycol surfactant, etc. in order to limit polishing damage in the CMP abrasive containing cerium oxide and water as described in documents 1 and 2 could easily be conceived by a person skilled in the art.

Therefore the inventions of claims 1~2 and 4~7 do not involve an inventive step on account of documents 1~4 and 6.

Re Claim 3

The compound described as general formula (11) in claim 3 of this application is publicly known as an acetylene glycol compound surfactant having excellent physical properties (document 5), so using such a publicly known substance as an acetylene glycol surfactant added to an abrasive material is merely something to be appropriately decided by a person skilled in the art.

Also, in the present application's invention, using a compound with the specific structure does not produce a remarkable improved effect that could not be predicted by a person skilled in the art.

Therefore the invention of claim 3 does not involve an inventive step on account of documents 1~6.